



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Joseph M. Jilka  
SERIAL NO: 10/086,062  
FILED: February 28, 2002  
TITLE: NOVEL PLANT PROMOTER SEQUENCES AND METHODS OF USE  
FOR SAME

ART UNIT: 1635  
EXAMINER: Epps, J.

**131 DECLARATION OF JOSEPH M. JILKA**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

I, Joseph M. Jilka hereby declare the following:

1. That I am the inventor for the above-identified patent application; that I conceived and reduced to practice in the United States the invention claimed in the above-identified patent application prior to the international publication date of March 23, 2000, of the cited PCT Application No. WO 00/15810 to Goldsbrough as evidenced by the enclosed notebook pages.
2. Attached Exhibit A is a copy of notebook records relating to this conception wherein construction of proposed versions of the ubiquitin variants show a no heat shock version. Also relating to this conception is Exhibit B which is a copy of a table listing the promoters made which show a no heat shock version. Attached Exhibit C are primers among which is the no heat shock version, version 4A, 4B.
3. That pursuant to this conception, I actually reduced to practice in the United States the invention claimed in the above-identified patent application prior to March 23, 2000, the international publication date of the cited Goldsbrough patent. Attached Exhibit D and E are copies of the notebook records of Kathy Beifuss, who worked under my direction and supervision, however, did not contribute materially to the above-identified invention, relating to the actual reduction to practice, wherein Exhibit D shows use the no heat shock

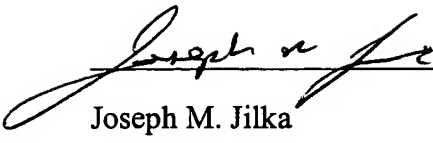
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version in a mini-prep and Exhibit E shows use of the no heat shock version in sequencing. Additionally, attached Exhibits F and G relating to the actual reduction to practice is a copy of the notebook records of Chris Brooks and Elizabeth Wilfong, both who worked under my direction and supervision, however, did not contribute materially to the above-identified invention, showing the GUS reporter gene expression in corn seed using the Ubi promoter variant, GSC, the ubiquitin promoter having no heat shock elements. Wherein total soluble protein (1  $\mu$ g) was incubated in 100  $\mu$ l lysis buffer and the reaction initiated with 5mM 4-methylumbelliferyl  $\beta$ -D-glucuronide (MUG). The reaction was incubated for up to about 20 minutes at 37°C. At specific time points approximately 25  $\mu$ l of volume of the reaction mixture was transferred into a reading plate that had 175  $\mu$ l of Stop buffer in the well. The reaction plate was placed at 37°C until the next time point. Generally readings at 0, 15, 30, and 60 minutes were taken. Plates were read at 360nm excitation wavelength and 460 nm emission wavelength. GUS protein levels were then calculated by comparison to a standard curve of 1-100  $\mu$ M 4-methylumbelliferyl. Exhibit G shows results from a 10 minute reading. The dates of these records have been redacted, however, the acts of conception and reduction to practice occurred prior to March 23, 2000, the international publication date of the cited Goldsbrough patent.

4. That Exhibits, A, B, C, D, E, F, and G, which relate to the aforementioned conception and reduction to practice, correspond to the invention disclosed and claimed in the above-identified patent application.

5. The undersigned further declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Date: 7/17/02

  
Joseph M. Jilka

# Comparison of ultraviolet valiances

## Proposed versions

version 1.0  $\longrightarrow$  A only  
 version 2.0  $\longrightarrow$  B only  
 version 3.0  $\longrightarrow$  A, B no only  
 version 4.0  $\longrightarrow$  no A, B

## Version

algas A8333C11

A8333C10

diluted to 100 ppm / ml

50 ml each mixed

$\downarrow$  25  
 $\downarrow$  5 slow cool  
 $\downarrow$  40

legation 2ml algae (100 ppm)

2ml 42% O<sub>2</sub>

7ml H<sub>2</sub>O

1.5ml 10% buffer

1.5ml 10% ATP

10ml liquid

15ml

$\downarrow$  16° 1 hr

$\downarrow$  65° 15'

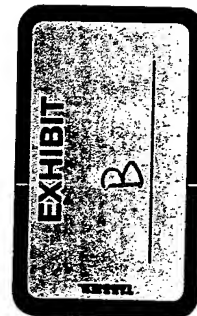
EXHIBIT

A

James R. Fox  
 Michael B. B.

ProdiGene Promoters

Name	Description	Reporter	Test vector	Transform	Events
PGNpr1	maize polyubiquitin 1 (UBI1)	GUS	pP1P8904	Corn	GSA
PGNpr2	maize globulin 1	GUS-ubis	pPGN7002	Corn	GSI
PGNpr3	maize 22 kD alpha-zin	GUS-ubis	pPGN9075	Corn	PMI
PGNpr4	maize UBI1 no heat shock elements (HSE): Ubic	GUS-ubis	pPGN9071	Corn	GSC
PGNpr5	maize UBI1 no 3' HSE: Ubis	GUS-ubis	pPGN7547	Corn	GSD
PGNpr6	maize UBI1 no 5' HSE: Ubis	GUS-ubis	pPGN7505	Corn	GSE
PGNpr7	maize UBI1 no HSE overlap: Ubis	GUS-ubis	pPGN7583	Corn	GSE
PGNpr8	maize UBI1 replace HSE with 3x PstI seed specific element: Ubis	GUS-ubis	pPGN7800	Corn	GSE
PGNpr9	teosinte polyubiquitin 1	GUS-ubis	pPGN8929	Corn	GSG
PGNpr10	teosinte polyubiquitin 1a	GUS-ubis	pPGN8984	Corn	GSI
PGNpr11	sorghum polyubiquitin 1	GUS-ubis	pPGN8985	Corn	GSI
PGNpr12	maize glutathione-S-transferase 1 (GST1)	GUS-ubis	pPGN8986	Corn	GSI
PGNpr13	synthetic promoter RsynD with 35S enhancer 6' (tested with maize Adh-1 int)	GUS-ubis	pPGN9007	Corn	GSI
PGNpr14	synthetic promoter Rsyn7 with 35S enhancer 5' (tested with maize Adh-1 int)	GUS-ubis	pPGN9006	Corn	GSI
PGNpr15	maize HRCp	GUS-ubis	pPGN9016	Corn	GSI
PGNpr16	maize P promoter (tested with maize Adh-1 int)	GUS-ubis	pPGN9035	Corn	GSI
PGNpr17	modified version of Agrobacterium synthase (supMAS)	GUS-ubis	pPGN9036	Corn	GSI
PGNpr18	bean phaseolin	GUS	pP1P10336	Pea	GSI
PGNpr19	maize UBI1 no 5' HSE with a little extended seq at 5' end (beyond p16)	GUS-10x035	pPGN0275	Pea	GSI
PGNpr20	rice glutelin 1.3kb of 5' sequence	GUS-ubis	pPGN5690	Pea	GSI
PGNpr21	rice glutelin 2.3kb (2.3kb of 5' sequence)	GUS-ubis	pPGN9042	Corn	GSI
PGNpr22	rice glutelin 2.3kb (2.3kb of 5' sequence)	GUS-ubis	pPGN9056	Corn	PMI
PGNpr23	rice globulin 26kDa	GUS-ubis	pPGN9057	Corn	PMI
PGNpr24	maize globulin 2	GUS-ubis	pPGN9060	Corn	PMI
PGNpr25	maize globulin 2	GUS-ubis	pPGN9076	Corn	PMI



# GIBCO BRL Custom Primers

## Certificate of Analysis

**Primer 1:**

Primer Name: UBI HSP VER. 1A

Researcher:

Sequence (5' to 3'): PAG ACG GCA CGG CAT CTC TGT CGC TGC CTC CAC CGT TGG ACT TGC TCC GCT  
GTC GGC ATC CAG AAA T

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 21299.2

Millimolar Extinction Coefficient: 678.6

Purity **Desalted**

$T_m$  (1 M Na<sup>+</sup>): 96

$T_m$  (50 mM Na<sup>+</sup>): 76

% GC: 60

Notes:

Primer Number: A8333C10 (C10)

Primer Length: 66

$\mu\text{g}$  per OD: 31.3

nmoles per OD: 1.4

OD's: 39.3

$\mu\text{g's}^*$ : 1234

nmoles: 67

Coupling Eff.: 99%

~ 57.  
s 1<sup>st</sup>

**Primer 2:**

Primer Name: UBI HSP VER.1B

Researcher:

Sequence (5' to 3'): PTT TCT GGA TGC CGA CAG CGG AGC AAG TCC AAC GGT GGA GGC AGC GAC AGA  
GAT GCC GTG CCG TCT GC

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 21897.4

Millimolar Extinction Coefficient: 732.9

Purity **Desalted**

$T_m$  (1 M Na<sup>+</sup>): 97

$T_m$  (50 mM Na<sup>+</sup>): 78

% GC: 62

Notes:

Primer Number: A8333C11 (C11)

Primer Length: 67

$\mu\text{g}$  per OD: 29.8

nmoles per OD: 1.3

OD's: 10.7

$\mu\text{g's}^*$ : 319

nmoles: 14

Coupling Eff.: 99%

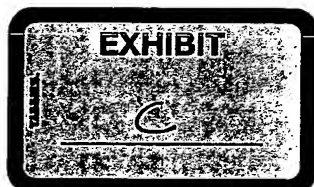
UBI 1A

57 nmoles

570  $\mu\text{L}$   $\rightarrow$  100  $\mu\text{mol}/\mu\text{L}$

14 nmoles

140  $\mu\text{L}$   $\rightarrow$  100  $\mu\text{mol}/\mu\text{L}$



\* See Note about Quantities in Supporting Information.

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# GIBCO BRL Custom Primers

## Certificate of Analysis

### Primer 1:

Primer Name: UBI HSPA VER.2A

Primer Number: D0373807 (B07)

Researcher:

Primer Length: 81

Sequence (5' to 3'): P-A GAC GGC ACG GCA TCT CTG TCG CTG CCT CTG GAC CCC TCT CGA CCA CCG  
TTG GAC TTG CTC CGC TGT CGG CAT CCA GAA AT

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 25105.2

$\mu\text{g}$  per OD: 31.6

Millimolar Extinction Coefficient: 824.3

nmoles per OD: 1.2

Purity	Desalt	OD's	90.0
Tm (1 M Na+)	98	$\mu\text{g's}$	2850
Tm (50 mM Na+)	77	nmoles	108
% GC	61	Coupling Eff.	98%

Notes:

1050  $\mu\text{g}$   $\Rightarrow$  100 pmol/ $\mu\text{g}$

### Primer 2:

Primer Name: UBI HSPB VER.2B

Primer Number: D0373808 (B08)

Researcher:

Primer Length: 82

Sequence (5' to 3'): P-T TTC TGG ATG CCG ACA GCG GAG CAA GTC CAA CGG TGG TCG AGA GGG GTC  
CAG AGG CAG CGA CAG AGA TGC CGT GCC GTC TGC

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 26872.4

$\mu\text{g}$  per OD: 29.7

Millimolar Extinction Coefficient: 902.2

nmoles per OD: 1.1

Purity	Desalt	OD's	77.0
Tm (1 M Na+)	99	$\mu\text{g's}$	2294
Tm (50 mM Na+)	76	nmoles	85
% GC	63	Coupling Eff.	98%

Notes:

750  $\mu\text{g}$   $\Rightarrow$  100 pmol/ $\mu\text{g}$

### Primer 3:

Primer Name: UBI HSPA VER.3A

Primer Number: D0373809 (B09)

Researcher:

Primer Length: 81

Sequence (5' to 3'): P-A GAC GGC ACG GCA TCT CTG TCG CTG CCT CTC GAG AGT TCC GCT CCA CCG  
TTG GAC TTG CTC CGC TGT CGG CAT CCA GAA AT

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 26160.2

$\mu\text{g}$  per OD: 31.5

Millimolar Extinction Coefficient: 830.8

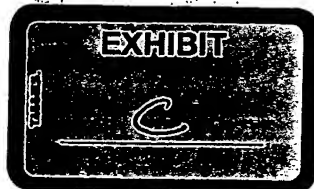
nmoles per OD: 1.2

Purity	Desalt	OD's	88.7
Tm (1 M Na+)	98	$\mu\text{g's}$	2783
Tm (50 mM Na+)	76	nmoles	106
% GC	60	Coupling Eff.	98%

Notes:

1050  $\mu\text{g}$   $\Rightarrow$  100 pmol/ $\mu\text{g}$

\* See Note about Quantities in Supporting Information.



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# GIBCO BRL Custom Primers

## Certificate of Analysis

### Primer 4:

Primer Name: UBI HSPB VER.3B

Primer Number: D0373B10 (B10)

Researcher:

Primer Length: 82

Sequence (5' to 3'): P-T TTC TGG ATG CCG ACA GCG GAG CAA GTC CAA CGG TGG AGC GGA ACT CTC  
GAG AGG CAG CGA CAG AGA TGC CGT GCC GTC TGC

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 26816.4

$\mu\text{g}$  per OD: 29.7

Millimolar Extinction Coefficient: 901.3

nmoles per OD: 1.1

Purity	Desalt	OD's	83.2
Tm (1 M Na <sup>+</sup> )	99	$\mu\text{g's}$	2476
Tm (50 mM Na <sup>+</sup> )	77	nmoles	92
% GC	62	Coupling Eff.	98%
Notes:	920 $\mu\text{L}$ $\Rightarrow$ 100 $\mu\text{L}$		

### Primer 5:

Primer Name: UBI HSPA VER.4A

Primer Number: D0373B11 (B11)

Researcher:

Primer Length: 86

Sequence (5' to 3'): P-A GAC GGC ACG GCA TCT CTG TCG CTG CCT CTG GAC CCC TCT CGA CTC GAG  
AGT TCC GCT CCA CCG TTG GAC TTG CTC CGC TGT CGG CAT CCA GAA AT

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 30966.2

$\mu\text{g}$  per OD: 31.7

Millimolar Extinction Coefficient: 976.3

nmoles per OD: 1.0

Purity	Desalt	OD's	89.3
Tm (1 M Na <sup>+</sup> )	100	$\mu\text{g's}$	2833
Tm (50 mM Na <sup>+</sup> )	78	nmoles	91
% GC	61	Coupling Eff.	98%
Notes:	900 $\mu\text{L}$ $\Rightarrow$ 100 $\mu\text{L}$		

### Primer 6:

Primer Name: UBI HSPB VER.4B

Primer Number: D0373B12 (B12)

Researcher:

Primer Length: 97

Sequence (5' to 3'): P-T TTC TGG ATG CCG ACA GCG GAG CAA GTC CAA CGG TGG AGC GGA ACT CTC  
GAG TCG AGA GGG GTC CAG AGG CAG CGA CAG AGA TGC CGT GCC GTC TGC

Molecular Weight  $\mu\text{g}/\mu\text{mole}$ : 31781.4

$\mu\text{g}$  per OD: 29.6

Millimolar Extinction Coefficient: 1070.6

nmoles per OD: 0.9

Purity	Desalt	OD's	97.1
Tm (1 M Na <sup>+</sup> )	100	$\mu\text{g's}$	2883
Tm (50 mM Na <sup>+</sup> )	78	nmoles	90
% GC	62	Coupling Eff.	98%
Notes:	900 $\mu\text{L}$ $\Rightarrow$ 100 $\mu\text{L}$		

\* - See Note about Quantities in Supporting Information.



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Do Nucleonid prep of 5596, 5597,  
4216, 4217, 4218 and 4219

Digest 5596 and 5597 w/ *EcoRI* as a check  
make sure smaller frag. is ~ 2kb.

Digest 4216, 4217, 4218, 4219 w/ *BglI* / *SbfI*  
to check that the 168bp frag. is generated.

Digest 4216 w/ *BglI* / *XbaI* to use as  
accepting vector for ubiquitin versions 1-4.  
Gel isolate on 1% agarose

Digest 5596 w/ *NheI* / *NotI* to isolate insert  
(~ 1.6 kb) Lt: BAASS. *NotI* and *NheI*  
Gel isolate on agarose cut in different buffer  
Cut w/ *NotI* 1st & 2nd  
and Et-CH ppt.  
Cut w/ *NheI*

Mini-preps on BAASS:NA #5 5648 - 5665  
Digest w/ *EcoRI* / *PstI*. Cut 118 also  
run on 10% acrylamide

→ Anneal Ubiquitin versions 1, 2, 3, and 4  
ligase together.  
Heat to 95°C for 5 min then stick on ice  
check these on a 10% acrylamide gel

Run pre-cut 3770 *NheI* / *NotI* on an agarose  
gel to check it out. *NotI* / *NheI*

Check the variation w/ a 113/Not3 digest (first 5 of each)

1. 1Kb ladder
- 2-6. Ubi1 7543-7547
- 7-11. Ubi2 7561-7565
- 12-16. Ubi3 7579-7583
- 17-21. Ubi4 7597-7601
22. ~~5000~~ NH/NotI 7062 vector
23. 6939 NotI/NotI frag
24. 1Kb ladder



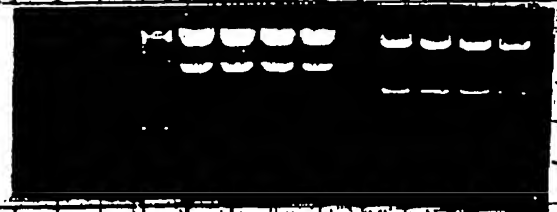
All looks fine. Send  
these for sequencing

Sequencing data shows 7368 to be correct for  
GUS/P2P

Make Avidin/P2P using 7368 as start

Digest 7424 (Avidin/3720) and 7368 (GUS/P2P)  
with Bam<sup>HI</sup>/NotI

- Gel: 1. 1Kb ladder
- 2-5. 7368 (GUS/P2P) Bam/NotI
6. Skip
- 7-10. 7424 (Avidin) Bam/NotI



Isolate larger vector frag from GUS/P2P and the smaller  
insert band from Avidin

Katherine Bepko



# Gus Assay

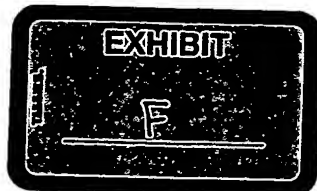
PURPOSE: TO QUANTITATE THE AMOUNT OF GUS IN CORN SEED

MATERIALS: REACTION PLATE - COSTAR EIA/RIA  
READING PLATE - NUNC FLUORONUNC POLYSPOT  
MU - 4 METHYLUMBELLIFERONE (SIGMA M-1508)  
MUG - 4 METHYLUMBELLIFERONE B GLUCURONIDE (SIGMA M-9130)  
MICROBALANCE  
FLUORESCENCE MICROPLATE READER

PROCEDURE: USE PROTOCOL FOUND ON PAGE # 57 OF THIS NOTEBOOK (#58).

RESULTS: DATA FOUND BELOW. (BASED ON 20-MIN READINGS.)

SAMPLE #	% TSP	SAMPLE #	% TSP
GSE 12020-4	0.088	GSE 05030-1	0.087
-5	ND	-2	0.54
GSD 01120-1	ND	-3	0.61
-2	ND	-4	0.16
-3	ND	-5	0.06
-4	ND	11 0808-1	0.001
-5	ND	-2	0.002
GSE 15070-4	0.28	-3	0.007
11 05050-1	0.17	-4	ND
-2	0.015	-5	0.001
-3	0.010	11 07050-1	0.3
-4	0.174	-2	0.089
-5	0.010	-3	0.27
11 05090-1	0.043	-4	0.013
-2	0.014	-5	0.43
-3	0.001		
-4	0.004		
-5	0.004		
GSC 00010-1	0.006		
-2	0.010		
-3	0.009		
-4	0.60		
-5	0.004		



Investigator: Book # 58

Chris Brook Date:

Witness: Elizabeth Wilcox Date:

# GUS Assay

SEE PURPOSE, MATERIALS, & PROCEDURE BELOW.

**Purpose:** To quantitate the amount of GUS in corn seed extracts.

**Materials:** Reaction Plate-Costar EIA/RIA, non-tissue culture treated 96-well flat bottom plate  
Reading Plate-Fluorescence Polystyrene 96-well black plate  
MUG 4-methylumbelliferone (Sigma M-1508)  
MUG 4-methylumbelliferone 8-glucuronide (Sigma M-9130)  
Microbalance  
Fluorescence microplate reader (Molecular Devices Gemini)

**Reagents:** Lysis Buffer: 50 mM sodium phosphate pH 7.0, 1 mM EDTA, 10 mM BME.  
Note: 50 mM sodium phosphate is made by mixing 97 ml of Stock A (0.2M  $\text{NaH}_2\text{PO}_4$  (27.6 g/L) with 153 ml of Stock B (0.2M  $\text{Na}_2\text{HPO}_4$  (53.6 g/L) and bringing to a final volume of 1.0 L with  $\text{dH}_2\text{O}$ .  
Also note that the 10 mM BME should be added to an aliquot of the lysis buffer fresh daily, enough for that day's experiment.  
Stop Buffer: 0.2 M  $\text{Na}_2\text{CO}_3$  (21.2 g/L)  
1 mM MUG Standard Stock: 4.96 mg MUG in 25 ml  $\text{dH}_2\text{O}$  (made fresh daily)  
20 mM MUG Substrate Stock: 7 mg MUG in 1.0 ml 95% ethanol (made fresh daily).

**Procedure:** Corn seed extracts should already be prepared and analyzed for total protein according to standard procedure.  
In a reaction plate, equilibrate up to 40  $\mu\text{g}$  of total protein in a total volume of 100  $\mu\text{l}$  lysis buffer. Generally samples can be analyzed with 1  $\mu\text{g}$  total protein. Samples should be analyzed in triplicate.  
Add standard curve to triplicate wells diluted as follows:  
10  $\mu\text{l}$  of 1 mM MUG standard stock is diluted with 90  $\mu\text{l}$  lysis buffer.  
10  $\mu\text{l}$  of this 1:10 dilution is further diluted with 90  $\mu\text{l}$  lysis buffer to give a 1:100 dilution.

0 mM MUG standard 100  $\mu\text{l}$  lysis buffer / well  
1000 mM MUG standard 12.5  $\mu\text{l}$  of the 1:100 dilution + 87.5  $\mu\text{l}$  lysis buffer / well  
10,000 mM MUG standard 12.5  $\mu\text{l}$  of the 1:10 dilution + 87.5  $\mu\text{l}$  lysis buffer / well  
100,000 mM MUG standard 12.5  $\mu\text{l}$  of the 1 mM MUG stock + 87.5  $\mu\text{l}$  lysis buffer / well

Prepare the reading plates by pipetting 175  $\mu\text{l}$  of Stop buffer into all wells of the plate. You will need a separate plate for each time point required. Generally we take readings at 0, 15, 30 and 60 minutes.

Dilute the 20 mM MUG substrate stock to 5 mM with lysis buffer. Add 25  $\mu\text{l}$  of 5 mM MUG to every well including both standard and sample wells and mix to start the reaction. Immediately after adding the MUG, pipette 25  $\mu\text{l}$  of solution from the reaction plate into a prepared reading plate. Place the reaction plate at 37  $^{\circ}\text{C}$  until the next time point. At each subsequent time point, pipette 25  $\mu\text{l}$  of solution from the reaction plate into a prepared reading plate.  
Reaction is stable for several hours once it has been stopped. Note that stopping the reaction is essential for fluorescence formation.

Plates are read at 360 nm excitation wavelength and 460 nm emission wavelength.

The unknown samples are read against the standard curve in mM MU and the amount of GUS in the samples is calculated as follows:

Average mM MU for each sample (Mean Value Column) / minutes reaction proceeded = mM MU / min \* 60 min / hr = mM MU / hr. Note that if there is > 100 FU in the 0 time point reading of the average mM MU, that value must be subtracted from the average mM MU at each subsequent reading. This value is then corrected for the amount of protein added in the sample by dividing by the total protein added to give mM MU / hr /  $\mu\text{g}$ . This value is converted to %TSP by multiplying by  $1.66 \times 10^4$  which is a conversion factor determined while at Pioneer.

A Quality Control sample (a known amount of GUS spiked into control corn seed extract) may be run on each assay to determine reproducibility of quantitation.



## RESULTS: DATA FOUND BELOW. (10-MIN READINGS)

SAMPLE#	%TSP	SAMPLE#	%TSP	SAMPLE#	%TSP
GSG 01040-1	0 0	GSG 01110-1	0.6 0.06	GSC 01060-1	0 0
-2	0.4 0.04	-2	0.4 0.04	-2	0 0
-3	0.6 0.06	-3	0 0	-3	0 0
-4	0.5 0.05	-4	0.4 0.04	-4	0 0
-5	0.4 0.04	-5	0.4 0.04	-5	4.8 0.5
GSD 02130-1	1.1 0.1	GSC 01070-1	4.2 0.4	GSC 01130-1	8.4 0.8
-2	0.7 0.07	-2	2.7 0.3	-2	0.7 0.01
-3	0.7 0.1	-3	3.4 0.3	-3	8.6 0.9
-4	0 0	-4	5.2 0.5	-4	5.0 0.5
-5	0.8 0.1	-5	0.01 0.001	-5	0.7 0.07
GSG 01020-1	0 0	GSC 01040-1	0.7 0.01	GSC 01110-1	0 0
-2	0 0	-2	5.7 0.5	-2	9.2 0.9
-3	0.12 0.01	-3	0.5 0.03	-3	0 0
-4	0 0	-4	0.3 0.03	-4	0 0
-5	0.2 0.02	-5	0.04 0.004	-5	9.6 0.7
GSC 01030-1	0 0				
-2	4.0 0.4				
-3	4.2 0.4				
-4	0.5 0.05				
-5	7.5 0.8				

Investigator: \_\_\_\_\_ Book # 67  
Investigator: Chris Brooks Date: \_\_\_\_\_  
Witness: \_\_\_\_\_ Date: \_\_\_\_\_  
Witness: Elizabeth Wilkerson Date: \_\_\_\_\_

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